

ENVIRONMENTAL DESIGN OF URBAN AREAS

By BARRY McNEILL*

Paper delivered at the Royal Society Symposium 'The Urban Environment and Life', September 13, 1973

ABSTRACT: Contrary to conventional belief our large cities have generally improved their quality over the past half century. The main physical problems are associated with air quality, transportation and the excessive spatial segregation of socio-economic groups usually to the disadvantage of the poor. But the planning and management of urban areas is the most important problem we are facing. There are relatively simple physical design approaches that could improve public transport, opportunities and the environmental quality of both living and working areas, but the key solutions lie in the reform of urban government and the creation of socio-political opportunities for lower socio-economic groups.

The word environment is widely used in the current upsurge of community awareness. I prefer to define environment in Buckminster Fuller's sense of 'everything that isn't you'. But perhaps I also should define environmental design. This is a general term used to describe those professions which intervene in the environment: i.e. design, architecture, planning and even civil engineering.

The term has come to be used to emphasize:

1. An appreciation of the complexity of the environment and the interdependence of all its elements, including man.
2. A problem-solving orientation rather than a solution emphasis.
3. An appreciation of long term community goals rather than short term sectional material gain.

But in historical sense this approach is of course not new. In 1902 Ebenezer Howard introduced the chapter on Administration in *Garden Cities of Tomorrow* by quoting from Albert Shaw's *Municipal Government in Great Britain* published in 1895¹:

The present evils of city life are temporary and remediable. The abolition of the slums, and the destruction of their virus, are as feasible as the

¹ Shaw, A. *Municipal Government in Great Britain* 1895. Quoted by Howard, E. in *Garden Cities of Tomorrow* (edited by F. J. Osborn), Cambridge, Mass. M.I.T. Press 1965, p. 89.

* Director, Department of Environmental Design, Tasmanian College of Advanced Education, Mount Nelson, Hobart, Tasmania 7001.

drainage of a swamp, and the total dissipation of its miasmas. The conditions and circumstances that surround the lives of the masses of the people in modern cities can be so adjusted to their needs as to result in the highest development of the race, in body, in mind and in moral character. The so-called problems of the modern city are but the various phases of the one main question. How can the environment be most perfectly adapted to the welfare of urban populations? And science can meet and answer every one of these problems. The science of the modern city—of the ordering of the common concerns in dense population groups—draws upon many branches of theoretical and practical knowledge. It includes administrative science, statistical science, engineering and technological science, sanitary science, and educational social and moral science. If one uses the term City Government in the large sense that makes it inclusive of this entire ordering of the general affairs and interests of the community, and, further, if one grasps the idea that the cheerful and rational acceptance of urban life as a great social fact demands that the City Government should proceed to make such urban life conduce positively to the welfare of all the people whose lawful interests bring them together as denizens of great towns, he will understand the point of view from which this book has been written.

It is obvious to all of us that the concept of interdisciplinary urban government and planning is, even at this point some 80 years later, still on the horizon. But it is still important to reflect on the current urban condition and provide a general

analysis against which one can pose courses for action.

Contrary to conventional thinking, our large cities have generally improved their quality over the past half century. It is important to remember this, since there is a great tradition amongst western intellectuals, especially in the English-speaking world, to take romantic and irrational attitudes toward the city.² This is particularly true of many from the physical sciences. In recent times it is mainly the social sciences which provide penetrating analyses of the urban condition.

Let us briefly consider some of the myths of anti-urbanism³:

1. *Big cities are inefficient.* All empirical evidence suggests the contrary. Simply speaking, the larger the city the more economically efficient it is. Even New York does not seem to have reached any optimum size where marginal product is equal to or less than marginal cost.

2. *Big cities are uneconomical to service.* Although there are trade-offs between density, standard of living, technology and geographical factors, generally speaking empirical studies show the contrary.

3. *Big cities show extreme social pathologies.* Again, generalizing, this is not so. Social pathologies are related to social factors rather than size *per se*.

4. *High densities show extreme social pathologies.* Acceptable living densities are related to cultural variables and there is no direct relationship.

But there are some deteriorating indices in urban living. Air quality, at least in warm-climate cities where domestic heating by poor coal was not traditional, has deteriorated due to industrialization, but especially due to the use of the internal combustion engine to power our current form of personal ground vehicle. Public trans-

² For an excellent survey of these attitudes see White, M. & L., *The Intellectual Versus the City*. New York, Mentor Books 1964. Also see Glass, R., "Anti-Urbanism" *Current Sociology* (4) 1955, pp. 5-19, repeated in Stewart, M. (ed.), *The City: Problems of Planning*, Penguin 1972.

³ For a comprehensive survey see a paper by a group of staff and students from the Department of Environmental Design, T.C.A.E. 'Optimum City Population and Optimum Living Densities—Useful Concepts?' The paper was delivered to a symposium on 'Limits to Growth: Population in Australia' at the 45th ANZAAS Congress at Perth 1973.

port is in difficulties, again largely due to the same ground vehicle. More importantly perhaps, and more especially so in recent times, the spatial organization of the city has developed disadvantages to the poor, often as a result of so-called 'social measures' such as 'slum clearance' and 'public housing'.

There are two main ways in which lower socio-economic groups have become unnecessarily disadvantaged (not pretending that they have not always been so). The logical location for unskilled and semi-skilled workers is still at the centre of the city, or at strategic points on the public transport system. Even with the flight of much industry to the urban fringe we must remember that such labour has to be very mobile and generally will gain greater accessibility to the urban labour market, and at less real cost, by using public transport, if located near the old city core. The C.B.D. itself still provides considerable employment for this group, and lower-income groups have been displaced to the periphery by (a) urban renewal and (b) public housing policy.

Measures to deal with so-called 'slum clearance' and 'urban renewal' whether in England, the U.S. or Australia, have been largely counter-productive. Even the English new town program, largely conceived as a way of limiting the size of London, stopping the drift to the South East and dealing with the East End, has had very limited economic success and much social failure. Only now, after 25 years, are the initial new towns beginning to develop social pathologies as 'good' as the old slum cultures.

In the U.S.A. urban renewal has largely lowered the stock of cheap housing, provided new inner urban housing for the middle class and the rich, and subsidized business interests. The much publicized New Haven renewal program under Mayor Lee and Ed Logue has been characterized as a Democrat measure to subsidize Republican businessmen. Some economic analyses even suggest that much commercial renewal would have taken place anyway and would have used private sector finance.⁴

The operation of Australia's public housing has also had disadvantages for lower-income groups. (The controversy over slum clearance in Melbourne is a reflection of the U.S. conflict of 8-10 years ago.) Until very recently our housing program has been seen, and it is still operating, as a way of providing a cheap house on a cheap

⁴ e.g. see Anderson, M., *The Federal Bulldozer: A Critical Analysis of Urban Renewal 1949-1962*, Cambridge, Mass. M.I.T. Press 1964.

block.⁵ In other words it has been putting a roof over poverty. The need to reduce land costs has forced housing authorities to purchase fringe broad acre land and as a result create large low-income ghettos. In the nineteenth century city there was closer grain mix of social classes.

Very largely, lower income families cannot provide their own housing because (1) they do not have enough money, (2) they do not have access to credit, (3) they have not had the experience to plan their expenditure, (4) they may have pressing personal difficulties, e.g. no husband, which exacerbate 1, 2 and 3. Measures to meet these problems should be largely financial and of a supportive social and educational nature.

And I suppose that many of the upper middle class, especially professional and academic groups, think that there is something wrong with the physical and visual environmental quality of the city. This is a very complex question. The upper middle class can afford to worry about physical appearance and town planning. The Garden City movement, and the City Beautiful movement were all heavily permeated with physical determinism, which in its crudest sense implied that beautiful cities produce beautiful people. However, one must reflect that these movements were often elitist and anti-democratic. There are tremendous links between the early conservation groups, the town planning movement, the city manager development and the scientific management thrust. All seem to distrust democratic conflict and suggest hierarchical models of government or management. I always think that it is sobering to look back through history and note that it is the conservative or tightly controlled societies that produced visually ordered and 'beautiful' cities. For many western eyes it is the designed Renaissance city with tighter central control rather than the organic and 'messier' mediaeval city, that is the ideal concept of urban beauty. We still talk of 'civic design'.

There is another area of real concern in the urban condition. This is the operation of one purpose agencies, particularly at the metropolitan level of infrastructure or basic service systems. Separate authorities for water, highways, public transport, communications, and major social facilities all develop their own programs with little effective co-ordination or concern for the impact of

⁵ For excellent analysis of the social problems of public housing see Newton, P., 'Housing Policy and Housing Choice', unpublished Dip.Arch. Thesis, Department of Environmental Design, T.C.A.E. 1970, and Jones, M., *Housing and Poverty in Australia*, Melbourne University Press, 1972.

their operations, other than in terms of their own measures. One can discuss the freeway problem in terms of a lack of decision-making structure to develop proposals in relation to the total infrastructure, as well as in terms of the problems of narrow engineering-based development authorities with techniques and resources in search of problems to which they can apply preconceived solutions.

The mass of separate local government units which constitute even a small urban area of 50,000 people also makes infrastructure co-ordination very difficult.

What is the 'urban crisis' then? I would suggest, with many others, that we are really witnessing the problems of a society in transition from the industrial to the post industrial culture⁶ and that many of our problems stem from the style of thought and institutions that were appropriate in the early stage of primitive industrialization. Even our party system of government with departmental administration is out of date. It is excellent for dealing with simple development problems such as build a railway, build a highway, or with quantitative social issues such as institute compulsory schooling, increase the school leaving age to 14, build a public high school. In that type of issue, competition between claims for resources can easily be resolved by a cabinet model of political trading. Not a great deal of infrastructure co-ordination is required.

We are now moving into a different social situation. The issues we face are not of the same order. We are concerned with choosing between alternative mixes of transport, inter-relationships between alternative transport systems and land use, trade-offs between building housing or providing credit for the poor, varieties of education to satisfy individual differences and develop flexibility to meet increasingly rapid change. All of these are, in government terms, inter-departmental, and the current political model (i.e. the cabinet model or the political committee) cannot carry out the complex task of co-ordination.

The representative government model is also not fitted to deal with qualitative issues at the micro-level.⁷ Whether these be physical issues such as the visual environment, or social issues

⁶ The work of Mel Webber and Ed Banfield in the U.S.A. is of importance here e.g. see Banfield's 'A Critical View of the Urban Crisis', *Annals of the American Academy*, Jan. 1973, pp. 7-14. For a popular presentation see Alvin Toffler's *Future Shock*, Pan 1971.

⁷ For a simple presentation of this issue see the Skeffington Report *People and Planning*, H.M.S.O. London 1969.

such as educational goals and methods, centralized decision-making and centralized standards are no longer appropriate. Indeed, given the present conflict between citizen groups and governments, they are no longer practical.

What action then does this analysis suggest? At the administrative and governmental level it supports a familiar concept quoted at the beginning of this paper: functional regional government for urban areas with sophisticated planning procedures and the elimination, or at least integration, of the one purpose agencies. However, I would submit that it also suggests a need for considerable decentralization, indeed local control, over micro-environmental questions in living areas, and over the qualitative aspects of social services, e.g. schools and health centres. And this means local control at a scale considerably less than present local government units, which are too small to deal with urban infrastructure questions and too big to deal with qualitative issues.

The achievement of this state of affairs is possible in the near future if a locus of considerable centralism, Canberra, distributes its funds in certain ways:

1. No funds should be provided to local government or special purpose agencies unless their proposals are part of a regional infrastructure plan, or have, in the short term, been reviewed by a regional agency.

2. Funds should be made available to local neighbourhood groups for such matters as rehabilitation, historic preservation, open space and playgrounds, pocket car parks, community programs, children's play groups, etc. Such funding could foster the establishment of neighbourhood development corporations as happened in a few cases with the U.S. Model Cities program.

3. Funds should be made available for planning and participation at the regional and neighbourhood level, especially for goal formulation exercises.

What then would be the impact on the role of the environmental design professions and their operation?

Most importantly, there would be a need to change philosophical orientation on the part of many of the professionals who tend to be elitist and anti-democratic. There would be a need to recognize that the total process is towards one of variety and pluralism. The objective of urban planning and architectural design should be to maximize choice and increase freedom. Too many planners, engineers and architects seem to

think they have *the* answer and that the participation process is essentially one of selling rather than learning. They must recognize that plans are only *means* to achieve goals and objectives. They also must appreciate that community goal formation in the post-industrial society is too complex and serious an issue to leave to the traditional political system.

Environmental design would be very much a two-scale operation⁸. At the regional scale one would be concerned with large scale structure questions: water supply, transport, and major land use decisions such as location of commercial facilities, major industry, major social facilities. At the local neighbourhood scale the issues would be the traditional physical design and qualitative matters that at the moment are so unfortunately intermixed with structure questions. Interdisciplinary planning of the optimizing mode is appropriate and necessary at the regional level. Systems analysis and cost benefit techniques would be used, and could be used, since funds, data, staff and time would be available. At the local level traditional group conflict and qualitative approaches would tend to apply.

The professionals at the regional level would have to deal with the major environmental impact questions ranging from the ecological capacity of the regional system to the local impact of freeway construction. The regional planning task would require a different type of environmental design professional from those we are currently producing in engineering, architecture and planning. He would have to be capable of working in interdisciplinary teams, and require a good general education, a high level of specialist skill and a problem orientation. Australian tertiary education is still producing professionals in separate departments, with little or no general education or appreciation of the urban system, and with a set of techniques or solutions rather than a problem-solving orientation.

At the local level one can already see a new professional role developing: the concept of the planner or the architect as an advocate, either for groups within the local area, or for the local area to the regional system. This postulates a new democratic orientation for the designer and a wider social and political/legal capacity than previously. It also suggests that this role of the professions will become more 'public', in the sense of urban extension services or community or store-front environmental design offices.

⁸The reform of British planning legislation which was carried out in the 1960s and culminated in the 1968 Act is largely based on these principles.

I have talked then of the urban situation, possible courses of reform and the likely impact on the roles of the environmental design professions. Is there a general direction in this analysis?

I would suggest that not only is there a development towards greater pluralism in a social sense but there is also a development towards democratic environmental design, i.e. greater freedom for individuals to determine their own environment. A regional/neighbourhood structure allows

for this and at the same time provides a more effective feed-back or learning system. It allows greater numbers to learn to design their own environments and therefore come to design their future by learning also to control their own community planning processes and social institutions, and contributing to the regional decision-making process. This is necessary if we are not to continue our present habit of rushing backwards into the future.